BRUHAT BANGALORE MAHANAGARA PALIKE

Yelahanka Zone, Electrical Division

Name of Work: Detailed Estimate for Providing Street Lights in Yelahanka Division

						Est Cost Rs.			30000000.00	
Sl No	SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
1	143 / 19.1	Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3	Cum							
				1	805.00	1.20	0.20	193.20		
				55	1.00	0.70	1.65	63.53		
						Total Qnty		256.73	210.16	53953.33
		Basic rate =	130.00							
		Add 6% A.W =	7.80							
		Lead 6km, loading and unloding	72.36							
		Total =	210.16							
2	222 / 27.18	KSRRB M2100-10: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.89 cum and fine aggregates @ 0.46 cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days including cost of all materials, labour, HOM of machinery, curing, formworks, scaffolding and centering complete as per specifications	Cum							
				2	805.00	0.20	0.10	32.20		
				55	1.00	0.70	0.10	3.85		
						Total Qnty		36.05	5421.90	195459.50
		Basic rate =	5115.00							
		Add 6% A.W =	306.90							
		Total =	5421.90							
3	155 / 20.20	Construction of Median and island with Soil taken from Borrow Areas. KSRRB M400-19. Construction of Median and island with Soil taken from Borrow Areas. Construction of Median and island above road level with approved material deposited from borrowpits, spread, sloped and compacted as per Clause 400.7 complete as per specifications. MORTH Specification No. 407	Cum							
				1	805.00	0.80	0.30	193.20		
						Total Qnty		193.20	221.54	42801.53
		Basic rate =	209.00							
		Add 6% A.W =	12.54							
		Total =	221.54							
4	27 / 5.30	Providing and fixing pre cast solid cement concrete kerb stones made out of CC 1:2:4 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete	Nos							

Sl	SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
				2	805.00		0.45	3578.00		
							Total Qnty	3578.00	432.48	1547413.44
		Basic rate =	408.00							
		Add 6% A.W =	24.48							
		Total =	432.48							
5	180 / 24.1	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8	Sqm							
				2	805.00		0.35	563.50		
							Total Qnty	563.50	84.80	47784.80
		Basic rate =	80.00							
		Add 6% A.W =	4.80							
		Total =	84.80							
6	257 / 34.17	Providing and laying in position plain/realnforced cement concrete M20 for sub structure/ Superstructure works, with cement @ 320 kgs, 20 mm & down size graded granite metal coarse aggregate @ 0.69 cum and fine aggregates @ 0.46 cum machine mixed with superplasticisers @ 3ltrs confirming to IS 9103-2008, concrete laid in layers, well compacted and providing weep holes wherever necessary with necessary scaffoldingf, formwork etc., including cost of labour, HOM curing etc., complete	Cum							
				55	1.00	0.70	1.80	69.30		
							Total Qnty	69.30	5277.74	365747.38
		Basic rate =	4979.00							
		Add 6% A.W =	298.74							
		Total =	5277.74							
7	229 / 28.8.2	KSRRB M2200-6. Providing TMT steel reinforcement Fe500 for R.C.C work including straightening, cutting, bending, hooking, palcing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining memebrs wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. MORTH specification No 1600 & 2200	Tonnes							
		12mm, 0.89kgm	55	16	2.10	0.89		1644.72		
		8mm, 0.39kg/m @ 150mm c/c	55	12	3.00	0.39		772.20		
							Total Qnty	2.42	72326.98	175031.29
		Basic rate =	68233.00							
		Add 6% A.W =	4093.98							
		Total =	72326.98							
		Decorative Lighting								

Sl	SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
8	Approved Rate	Fabricating, Supplying and errection of decorative bent type Conical Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to withstand the wind speed. The total height of the pole 9 mtrs. The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom 178 mm,at 9 mtrs height 70 mm 3mm thick and one number of 3 mtr height perforated pole having colour changing LED Fixture, inside as suitable to the picture. The base plate size of 350mm x 350mm x 18 mm and the pole shall be galvanized with not less than 65 micron etc and finally finished with paint as required with two different colour. (With out foundation). As per the enclosed pictures and as per IS standards. As per attached	Nos							
				55				55.00	92500.00	5087500.00
9	67/ 12.9.4	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation.Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED efficiency>130lm/w, nominal CRI >75.Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government	Nos							
				140.00				140.00	10250.00	1435000.00
10	40/6.4.5	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS 1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 25 sqmm	Mtrs							
				1	3000.00			3000.00	180.00	540000.00

Sl	SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
11	40/6.4.5	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 35 sqmm	Mtrs							
				1	400.00			400.00	225.00	90000.00
12	41/6.5.2	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required In existing trench/duct. 25 sqmm to 75 sqmm	Mtrs							
				1	3400.00			3400.00	15.50	52700.00
13	66/6.6.1 A1	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete.(As per Civil SR KSRB I-2, P-7)In soil (ordinary)	Mtrs							
				1	2500.00			2500.00	76.00	190000.00
14	66/6.6.4	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete.(As per Civil SR KSRB I-2, P-7)Asphalt cutting	Mtrs							
				1	200.00			200.00	113.00	22600.00
15	6/2.3.2	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:confirming to latest amendments	Mtrs							
				1	3000.00			3000.00	20.50	61500.00
16	41/6.9.1	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than .25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV.40mm	Mtrs							
				1	30.00			30.00	335.00	10050.00
17	42/6.10.4	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc.35Sqmm	Nos							
				1	10.00			10.00	350.00	3500.00
18	43/6.17.7	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.25 sqmm Long Barrel	Nos							
				600				600.00	20.00	12000.00
19	40/6.2	Supplying fixing and wiring earth electrode for grounding of lifts, transformers, DG sets etc. using 40mm dia 2.9mm thick 2.5 mtr long GI pipe with GI funnel with mesh and suitable size reducer fixed on the top of the earth electrode.The funnel should be enclosed in a CC chamber of 400x400x400mm with a cast iron cover. The earth electrode shall have staggered holes of 12mm dia and the electrode should be covered 150mm all-round with alternate layers of salt and charcoal from the bottom of the CC chamber. The connection from the electrode is to be established through GI strip using GI bolts and nuts.	Nos							
				3				3.00	4150.00	12450.00

Sl	SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
20	40/6.3.10	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.600x600x3mm Copper plate	Nos							
				3				3.00	6900.00	20700.00
21	30/5.41.1	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc.,and painted with 2 coats of red oxide and then two coats of approved paint.40x40x6mm	Mtrs							
				1	70.00			70.00	255.00	17850.00
22	30/5.42.2	Fabricating supplying and mounting MS box made out SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved	Sqmm							
				1				150000.00	0.35	52500.00
23	27/5.14.7	Supplying and fixing Moulded Case Circuit Breaker (MCCB)over the existing wood/panel board using necessary screws,bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics)100Amps 25kA.	Nos							
				5				5.00	6400.00	32000.00
24	79/14.5	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.	Nos							
				140				140.00	175.00	24500.00
25	40/6.3.6	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.25x3mm Copper strip	Mtrs							
				1	250.00			250.00	505.00	126250.00
26	68/ 12.11.7	Supplying & fixing of retrofit type - LED bulb.....W with OPAL acrylic diffuser comprising of LED source with CCT 6500 degree K, CRI> 70%. efficacy >80 lumen per watt,life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%,Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by ABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition 18W, 6500K	Nos							
				55				55.00	255.00	14025.00

Sl	SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
27	25/5.7.3	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.63Amps	Nos							
				30				30.00	227.00	6810.00
28	AR	Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers: Customized step down transformers for various purposes.8) Wiring and other device assembly	Nos							
				5				5.00	51500.00	257500.00
29	BESCOM SR 18-1913/39.02	Laying of UG Cables by trenchless technology by adopting horizontal boring & Drawing of cable including preparation at site With HDPE Pipe i) Normal soil 5/6" bore size	Mtrs							
				1	200.00			200.00	848.00	169600.00
		Yalahanka Lake Road								
30	13/4.2.5	Fabricating, supplying and erection of ...Mtrs long hot dip **Galvanized Octagonal pole** with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc., (excluding foundation) as per drawing appended.7 meters - Top 70mm and bottom 130mm dia	Nos					50.00	10930.00	546500.00
31	16/4.7.2	Supplying, and fixing of Hot dip Galvanized M.S.Bracket suitable for out door luminaries and mounted on Octagonal pole using necessary bolts, nuts etc., complete.Single Arm Bracket with 1500mm Standard 48/50MM dia	Nos					50.00	2112.00	105600.00

Sl	SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
32	40/6.4.4	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS 1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 4 core 16 sqmm	Mtrs					2000.00	150.00	300000.00
33	40/6.4.6	3.5 core 35 sqmm	Mtr					150.00	225.00	33750.00
34	41/6.5.1	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.6 sqmm to 16 sqmm In existing trench/duct.6 sqmm to 16 sqmm	Mtr					2000.00	11.88	23760.00
35	41/6.5.2	25 sqmm to 75 sqmm	Mtr					150.00	15.50	2325.00
36	6.6.1	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7)In soil (ordinary)	Mtrs					1600.00	76.00	121600.00
37	41/6.9.1	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV.335 40mm	Mtrs					40.00	335.00	13400.00
38	67/12.8.5	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with ... W System Power consumption, LED Efficiency>130lm/w	Nos					50.00	9200.00	460000.00
39	79/14.5	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.	Nos					50.00	175.00	8750.00
40	42/6.1.4	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc.355qmm	Nos					4.00	350.00	1400.00

Sl	SR Page & Cl, No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
41	27/ 5.14.7	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics)100Amps 25kA.	Nos					2.00	6400.00	12800.00
42	30/5.42.2	Fabricating supplying and mounting MS box made out ... SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete.16SWG	Sqcms					60000.00	0.35	21000.00
43	30/5.41.1	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint.40x40x6mm	Mtrs					20.00	255.00	5100.00
44	40/6.1	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 12 mm dia	No					2.00	2999.70	5999.40
45	40/6.3.1	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required 25x3mm GI strip	Mtrs					10.00	75.00	750.00
46	5/2.3.2	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:confirming to latest amendments.1.5 sqmm						800.00	20.50	16400.00
47	5/2.3.6	10 sqmm	Mtrs					10.00	115.00	1150.00
48	18 pwd sr 18-19	Providing Rcc Pole pedstal of Size 0.5x0.5x1.6 Mtrs Including digging of pit, tor steel, anchoring bolts nuts ,templates ,Centring,1;4;8base concrete,1;2;4pedestal concrete and etc coplete as per the data sheet enclosed	Nos					50.00	5350.53	267526.69

	SR Page & CL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
49	AR	**Thiristor based single/ Three phase smart street light control and monitoring system** Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and	Nos					2.00	51500.00	103000.00
		Providing Pathway lighting and F M Music System allround Attur Lake bund								
50	14/4.4.2	Fabricating, supplying and erection of ...Mtrs long hot dip **Galvanized Conical pole** with BSEN 10025 grade S355JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc.,(excluding foundation) as per drawing appended.4 meters - Top 75mm and bottom 115 mm	Nos					190.00	6368.00	1209920.00
51	16/4.7.1	Supplying, and fixing of Hot dip Galvanized M.S.Bracket suitable for out door luminaries and mounted on Octagonal pole using necessary bolts, nuts etc., complete.Single Arm Bracket with 1000mm	Nos					190.00	1689.00	320910.00
52	40/6.4.4	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS 1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 4 core 16 sqmm	Mtrs					3800.00	150.00	570000.00
53	40/6.4.6	3.5 core 35 sqmm	Mtr					200.00	225.00	45000.00

	SR Page 8.51, No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
	41/6.5.1	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.6 sqmm to 16 sqmm In existing trench/duct.6 sqmm to 16 sqmm	Mtr					3800.00	11.88	45144.00
5	41/6.5.2	25 sqmm to 75 sqmm	Mtr					200.00	15.50	3100.00
56	6.6.1	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7)In soil (ordinary)	Mtrs					3000.00	76.00	228000.00
57	41/6.9.1	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV.335 40mm	Mtrs					40.00	335.00	13400.00
58	67/12.8.2	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75 Luminaire manufacturer	Nos					190.00	3360.00	638400.00
59	79/14.5	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.	Nos					190.00	175.00	33250.00
60	42/6.1.4 6.10.A	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc.35Sqmm	Nos					4.00	350.00	1400.00
61	27/ 5.14.7	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics)100Amps 25kA.	Nos					3.00	6400.00	19200.00

	SR Page & Sl, No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
2	30/5.42.2	Fabricating supplying and mounting MS box made out ... SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete.16SWG	Sqcms					90000.00	0.35	31500.00
63	30/5.41.1	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint.40x40x6mm	Mtrs					25.00	255.00	6375.00
64	40/6.1	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 12 mm dia	No					3.00	2999.70	8999.10
65	40/6.3.1	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required 25x3mm GI strip	Mtrs					20.00	75.00	1500.00
66	5/2.3.2	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:confirming to latest amendments.1.5 sqmm						1720.00	20.50	35260.00
67	5/2.3.6	10 sqmm	Mtrs					30.00	115.00	3450.00
68	pwd sr 18-19	Providing Rcc Pole pedstal of Size 35x35x130 cms Including digging of pit, tor steel, anchoring bolts nuts ,templates ,Centring,1;4;8 base concrete,1;2;4pedestal concrete and etc coplete as per the data sheet enclosed	Nos					190.00	2760.49	524492.26

SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
69 AR	**Thiristor based single/ Three phase smart street light control and monitoring system** Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and	Nos					3.00	51500.00	154500.00
70 AR	Supply, installation, testing and commissioning of out door garden speaker fitted with wide response and water resistant polypropylene speaker components and strong aluminium alloy housing permits various outdoor application omni directional speakers IP 55 norms 40W/100 volt with taping of 40/20/10/5watts 88 db 160 Hz-16KHz Dimensions DIA 185mm x H765 mmfrequency response Preferable.	Nos.					60.00	17640.00	1058400.00
71 AR	Supply, installation, testing and commissioning of 480 to 600 watt amplifier with large air cooled/forced air cooled heat sink with 3 x line level inputs and 1 x 100 volt input to loop another amp output line ground lift switch to reduce the ground loop hum with 100v/70 volt/ impedence out put Frequency resposne of 50 htz to 15 khtz SN ratio 60 db Power consumption 1200VA AC. Make : Audiotrak/Ahuja	Nos.					2.00	73080.00	146160.00
72 AR	Supply, installation, testing and commissioning of FM radio with Frequency range of 70 Mhz to 108 Mhz PLL based auto tuning sysetm with aux out with out door antenna consumption preferable. Make : Custom	Nos.					2.00	2160.00	4320.00
73 AR	Supply, installation, testing and commissioning of water proof audio rack made of Powder coated MS lockable with bottem ventilated with removable mesh type cover with power strip and for out door use preferable.	Nos.					2.00	64260.00	128520.00
74 AR	Supply, installation, testing and commissioning of Timer module with 8+8 programmable timer with realtime clock to fix the switching on and off time of BGM/PA system. Make : Custom	Nos.					2.00	8280.00	16560.00

SR Page [illegible], No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
	AR	Supply, installation, testing and commissioning of hand held wired mic with wind shield with single channel mic preamp Frequency response of 55 htz to 16000 htz with 2,5 mvolt out put. Make : Ahuja/Custom	Nos.					1.00	8460.00	8460.00
5	AR	Supply, installation, testing and commissioning of Speaker mounting hardware with mounting templets to be grouted in to the concrete with welded bolts as required to fix the garden speaker	Nos.					60.00	2250.00	135000.00
77	AR	Supply, installation, testing and commissioning of 4 core 2.5 sq mm armoured cable preferable Make : Custom	mtr					3500.00	297.00	1039500.00
		Providing/special repairs to Yalahanka Lake Bund FM Music system in Ward No 1								
78	AR	Supply, installation, testing and commissioning of out door garden speaker fitted with wide response and water resistant polypropylene speaker components and strong aluminium alloy housing permits various outdoor application omni directional speakers IP 55 norms 40W/100 volt with taping of 40/20/10/5watts 88 db 160 Hz-16KHz Dimensions DIA 185mm x H765 mmfrequency response Preferable.	Nos.					101.00	17640.00	1781640.00
79	AR	Supply, installation, testing and commissioning of 480 to 600 watt amplifier with large air cooled/forced air cooled heat sink with 3 x line level inputs and 1 x 100 volt input to loop another amp output line ground lift switch to reduce the ground loop hum with 100v/70 volt/ impedence out put Frequency resposne of 50 htz to 15 khtz SN ratio 60 db Power consumption 1200VA AC. Make : Audiotrak/Ahuja	Nos.					5.00	73080.00	365400.00
80	AR	Supply, installation, testing and commissioning of FM radio with Frequency range of 70 Mhz to 108 Mhz PLL based auto tuning sysetm with aux out with out door antenna consumption preferable. Make : Custom	Nos.					5.00	2160.00	10800.00
81	AR	Supply, installation, testing and commissioning of water proof audio rack made of Powder coated MS lockable with bottem ventilated with removable mesh type cover with power strip and for out door use preferable.	Nos.					5.00	64260.00	321300.00
82	AR	Supply, installation, testing and commissioning of Timer module with 8+8 programmable timer with realtime clock to fix the switching on and off time of BGM/PA system Make : Custom	Nos.					5.00	8280.00	41400.00
83	AR	Supply, installation, testing and commissioning of hand held wired mic with wind shield with single channel mic preamp Frequency response of 55 htz to 16000 htz with 2,5 mvolt out put. Make : Ahuja/Custom	Nos.					2.00	8460.00	16920.00

Sl No	SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
84	AR	Supply, installation, testing and commissioning of Speaker mounting hardware with mounting templets to be grouted in to the concrete with welded bolts as required to fix the garden speaker	Nos.					101.00	2250.00	227250.00
85	AR	Supply, installation, testing and commissioning of 4 core 2.5 sq mm armoured cable preferable Make : Custom	mtr					6000.00	297.00	1782000.00
86		Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7)In soil (ordinary)	Mtrs					5000.00	76.00	380000.00
		Providing Pathway Lighting and FM Music system to Shankarnag park Pathway In ward No 04.								
87	13/4.2.1	Fabricating, supplying and erection of ...Mtrs long hot dip **Galvanized Octagonal** pole with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top.....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc., (excluding foundation) as per drawing appended.3 meters - Top 70mm and bottom 130mm dia						40.00	5360.00	214400.00
88	65/12.7.2	Supply of LED pole mounting type post top lantern with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate/ clear glass material, delivering superior light output.Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB . LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 Housing with supplier word						40.00	6400.00	256000.00

	SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
89	40/6.4.4	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS 1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 4 core 16 sqmm	Mtrs					700.00	150.00	105000.00
90	41/6.5.1	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.6 sqmm to 16 sqmm In existing trench/duct.6 sqmm to 16 sqmm	Mtr					700.00	11.88	8316.00
91	6.6.1	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7)In soil (ordinary)	Mtrs					600.00	76.00	45600.00
92	41/6.9.1	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV.335 40mm	Mtrs					10.00	335.00	3350.00
93	79/14.5	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.	Nos					40.00	175.00	7000.00
94	42/6.1.4	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc.355qmm	Nos					2.00	350.00	700.00
95	26/5.14.1	Supplying and fixing Moulded Case Circuit Breaker (MCCB)over the existing wood/panel board using necessary screws,bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics)100Amps 25kA.	Nos					1.00	6400.00	6400.00
96	30/5.42.2	Fabricating supplying and mounting MS box made out ... SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete.16SWG	Sqcms					30000.00	0.35	10500.00
97	30/5.41.1	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint.40x40x6mm	Mtrs					20.00	255.00	5100.00

	SR Page No. SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
98	40/6.1	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 12 mm dia	No					1.00	2999.70	2999.70
99	40/6.3.1	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required 25x3mm GI strip	Mtrs					10.00	75.00	750.00
100	5/2.3.2	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:confirming to latest amendments.1.5 sqmm						300.00	20.50	6150.00
101	5/2.3.6	10 sqmm	Mtr.					10.00	115.00	1150.00
102	pwd sr 18-19	Providing Rcc Pole pedstal of Size 35x35x130 cms Including digging of pit, tor steel, anchoring bolts nuts ,templates ,Centring,1;4;8 base concrete,1;2;4pedestal concrete and etc coplete as per the data	Nos					40.00	2760.49	110419.42
103	AR	Supply, installation, testing and commissioning of out door garden speaker fitted with wide response and water resistant polypropylene speaker components and strong aluminium alloy housing permits various outdoor application omni directional speakers IP 55 norms 40W/100 volt with taping of 40/20/10/5watts 88 db 160 Hz-16KHz Dimensions DIA 185mm x H765 mmfrequency response Preferable. Make : Ahuja/Eq	Nos.					20.00	17640.00	352800.00
104	AR	Supply, installation, testing and commissioning of 480 to 600 watt amplifier with large air cooled/forced air cooled heat sink with 3 x line level inputs and 1 x 100 volt input to loop another amp output line ground lift switch to reduce the ground loop hum with 100v/70 volt/ impedence out put Frequency resposne of 50 htz to 15 khtz SN ratio 60 db Power consumption 1200VA AC. Make : Audiotrak/Ahuja	Nos.					1.00	73080.00	73080.00
105	AR	Supply, installation, testing and commissioning of FM radio with Frequency range of 70 Mhz to 108 Mhz PLL based auto tuning sysetm with aux out with out door antenna consumption preferable. Make : Custom	Nos.					1.00	2160.00	2160.00

Sl No	SR Page No, No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
106	AR	Supply, installation, testing and commissioning of water proof audio rack made of Powder coated MS lockable with bottem ventilated with removable mesh type cover with power strip and for out door use preferable. Make : Custom	Nos.					1.00	64260.00	64260.00
107	AR	Supply, installation, testing and commissioning of Timer module with 8+8 programmable timer with realtime clock to fix the switching on and off time of BGM/PA system Make : Custom	Nos.					1.00	8280.00	8280.00
108	AR	Supply, installation, testing and commissioning of hand held wired mic with wind shield with single channel mic preamp Frequency response of 55 htz to 16000 htz with 2,5 mvolt out put. Make : Ahuja/Eq	Nos.					1.00	8460.00	8460.00
109	AR	Supply, installation, testing and commissioning of Speaker mounting hardware with mounting templets to be grouted in to the concrete with welded bolts as required to fix the garden speaker	Nos.					25.00	2250.00	56250.00
110	AR	Supply, installation, testing and commissioning of 4 core 2.5 sq mm armoured cable preferable. Make : Custom	mtr					700.00	297.00	207900.00
									Total Construction Cost	25632492.84
									Tender Premium 5%	1281624.64
									Add GST 12%	2465399.14
									BESCOM Charges Rs	20000.00
									Add 2% for DPR and PMC Charges	600000.00
									Mislenious Rs	483.38
									Grand Total Rs	30000000.00

Technical Sanction
Accorded For 300.00 lakhs
Head of A/C 3740
CER NO : 39 Dt: 01-07-2020
Aparnanath
EA CE (YNK)

CERTIFICATE :-

1. The place was inspected and the work is essential.
2. The provision made in the estimate are adequate and necessary and the work comes in the BBMP limit and is legitimate Charges on the BBMP funds.
3. The estimate is based on KPWD (Ele) S.R.2019-20, KPWD S.R.2018-19 and Approved Rates.

Y.K.N. Babu
Asst. Engineer (Elec)

Asst. Exe. Engineer (Elec)
Sub-Division No.

Administrative Sanction for Rs. 300.00 lakhs
[Three Crore Rupees only]
is accorded under head P-3740
Registered as CE No. 74 Subject to conditions contained in enclosed memo No. BBMP/EE\YM4-D/AS/74/20-21 Dt. 7/1/2020

EXECUTIVE ENGINEER (ELEC)
YELAHANKA ZONE
BRUHAT BANGALORE MAHANAGARA PALIKE

Executive Engineer